

Opener -Rel'n with Two Variables

Emily works on a berry farm for summer employment. She hopes to earn \$300 this summer for a new bike. She earns \$0.75 per basket of strawberries and \$0.25 per basket of raspberries. Represent the relationship with an equation. If she only picks strawberries, how many baskets would she need to pick?

Apr 23-12:55 PM

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$$ax + by = c$$

$$0.75s + 0.25r = 300$$

$$r = 0$$

$$0.75s + 0.25(0) = 300$$

$$0.75s = 300$$

$$\frac{0.75}{0.75} = \frac{300}{0.75}$$

$$s = 400$$



She would need to pick 400 baskets of strawberries to earn \$300.

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5.3 Relationships with Two Variables  
Finding Solutions

Ralph p 290

$x$  = # of tires  
 $y$  = # of gear assemblies

$$2x + 5y = 100$$

$$2x + 5y = 100$$

$$x = 0$$

$$2(0) + 5y = 100$$

$$5y = 100$$

$$\frac{5y}{5} = \frac{100}{5}$$

$$y = 20$$

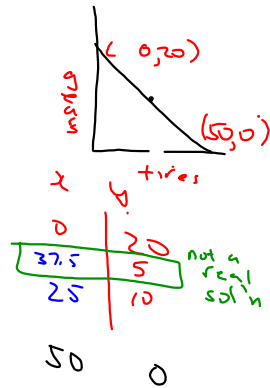
$$y = 0$$

$$2x + 5(0) = 100$$

$$2x = 100$$

$$\frac{2x}{2} = \frac{100}{2}$$

$$x = 50$$



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$$t = 25$$

$$2t + 5g = 100$$

$$2(25) + 5g = 100$$

$$50 + 5g = 100$$

$$5g = 100 - 50$$

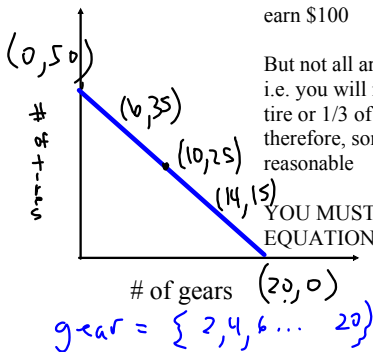
$$5g = 50$$

$$\frac{5g}{5} = \frac{50}{5}$$

$$g = 10$$

If he changes 10 gear assemblies he needs to replace 25 tires.

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All points on this line are considered Solutions to the problem ( combos to earn \$100

But not all are reasonable i.e. you will not get paid to fix 1/2 a tire or 1/3 of a gear therefore, some solutions are not reasonable

YOU MUST UNDERSTAND YOUR EQUATION

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Seatwork

p 295 q 7-11

p296 q 12, 16

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Hmk Ques

$$ax + by = c$$

$$\text{or } 30a + 10r = \$150$$

$$r = 7.5$$

$$30a + 10(7.5) = 150$$

$$30a + 75 = 150$$

$$30a = 150 - 75$$

$$\frac{30a}{30} = \frac{75}{30}$$

$$a = 2.5$$

Therefore if the mixture is 7.5 kg raisins it has 2.5 kg of almonds.  
to spend \$150.

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$$8) \quad 3c + 7t = 60$$

$$t = 3$$

$$3c + 7(3) = 60$$

$$3c + 21 = 60$$

$$3c = 60 - 21$$

$$\frac{3c}{3} = \frac{39}{3}$$

$$c = 13$$

If she made 3 tables she had time to make 13 chairs.

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$$a) \quad c + h = 800$$

$$c + h = 800$$

$$0.03c + 0.05h = 800$$

$$c = 2500$$

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$$10 \quad 0.05n + 0.25q = \$1250$$

$$\$2n + \$10q = 250$$

$$0.05 \times 40 = \$2$$

$$0.25 \times 40 = \$10$$

$$q = 17$$

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$$q + n = 250$$

$$0.25q + 0.05n = 250$$

$$n = 40$$

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Nov 6-9:53 AM